

for BP antigen, which is currently under way, will undoubtedly help further understanding of the molecule. Dr. Stanley established an international collaboration with Robin Eady and Hiroshi Shimazu at the Department of Cell Pathology at the Institute of Der-

matology in London to complete the immunoelectronmicroscopy and was assisted by Dr. Toshihiro Tanaka, Dr. Neil Korman, Vera Klaus-Kovtun, and Kerstin Cehrs at the National Cancer Institute.

## Topical EGF Promotes Both Epidermal and Dermal Wound Healing

A number of recently discovered growth factors are making rapid transitions from the laboratory to clinical application. One of the best-studied growth factors, epidermal growth factor (EGF), now is available in recombinant form (rEGF). In a study of wound repair in pigs, Dr. Lillian Nanney applied topical rEGF once daily to the wounds for 3 to 7 days and compared the area of epithelial resurfacing and the histologic dermal thickness by computerized morphometric analysis. All rEGF-treated wounds had complete epithelial resurfacing by 5 days and were statistically superior to placebo or untreated wounds by day 3 and 4. At day 5, the rEGF-treated epidermis was 10–16 cells deep compared to 4–5 cells deep in the placebo. Increased dermal thickness with more granulation tissue was also apparent in the rEGF-treated group. In contrast to other growth factors, rEGF enhanced healing of both epidermis and dermis.

Previous investigations have not found the impressive effects demonstrated in this work. Dr. Nanney believes this is because of problems with the delivery system or dosing. "There appears to be a constant dosing requirement for EGF," Dr. Nanney said. This is in contrast to other growth factors such as platelet-derived growth factor or basic fibroblast growth factor, where a single exposure may be sufficient to benefit wound healing. The daily dosing strategy used in this investigation was necessary for the dramatic effect. Since pigs heal wounds rapidly, many authorities are hesitant to apply this model for fear positive effects will not be detected. However, in this paper Dr. Nanney does document impressive wound

healing effects using the pig model. She tried a large variety of dosing schedules and delivery systems to detect rEGF effects on wound healing. She found that rEGF may lose its activity in some delivery systems and other vehicles may themselves inhibit wound healing. EGF was able to overcome vehicle inhibition in some experiments.

More study is required to understand the mechanism of action of rEGF in promoting rapid resurfacing of the wound. Dr. Nanney believes that rEGF enhances both epidermal migration and mitosis. The increased granulation tissue may be related to EGF chemotaxis of fibroblasts, stimulation of macrophages to release other growth factors or extracellular matrix proteins, or direct endothelial cell stimulation. Dr. Nanney points out that "EGF is physiologically present in the wound, and we are simply adding more to the environment." Caution should be used in extrapolation of this work to poorly healing wounds. Acute wounds, such as used in this investigation, contain abundant platelets and are rich in growth factors, while chronic wounds are often platelet poor and may contain inhibitors of wound healing.

Topical application of a wound-healing promoter directly to the wound site is quite appealing as a therapeutic strategy, and a single substance which enhances both the epidermal and dermal components of wound healing has great potential. Dr. Nanney is in the Departments of Plastic Surgery and Cell Biology at Vanderbilt University School of Medicine and the Nashville Veterans Administration Center.

## SID ANNUAL MEETING

The Annual Meeting of the Society for Investigative Dermatology will be held at the Sheraton Washington Hotel in Washington, D.C. from May 2–5, 1990. For further information contact: The Society for Investigative Dermatology, Department of Dermatology, University Hospitals, 2074 Abington Road, Cleveland, Ohio 44106-5000.

## JID EDITORSHIP

A search committee for a new editor (1992–1997) of *The Journal of Investigative Dermatology* has been formed. Nominations for this editorship are welcomed. In addition, persons interested in this position should write directly to Paul Bergstresser and send a curriculum vitae. Any qualified member of the European Society for Dermatological Research or the Society for Investigative Dermatology is eligible for consideration. The first meeting of the committee to consider applicants will be held at the May meeting of the Society for Investigative Dermatology; therefore, a prompt response would be appreciated. Paul R. Bergstresser, M.D., University of Texas, Southwestern Medical School, Health Sciences Center, Department of Dermatology, 5323 Harry Hines Boulevard, Dallas, Texas 75235.